



Olympic Pipe Line Company

Citizen's Committee

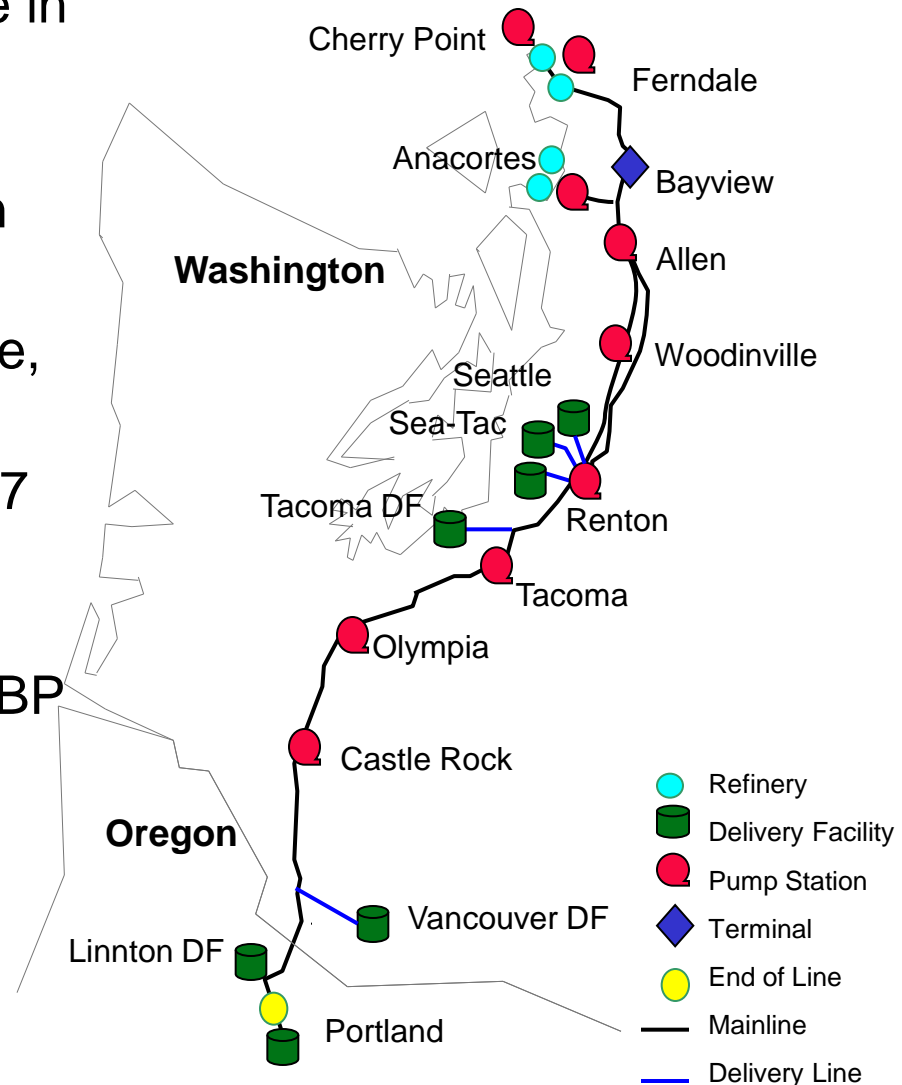
November 19, 2012



Introduction



- Largest petroleum products pipeline in the Pacific Northwest.
- Connects 4 refineries in the Puget Sound Area to products terminals in Western WA and Northwestern OR.
- Delivers refined petroleum to Seattle, Tacoma, Vancouver, and Portland.
- System includes 400 miles of pipe, 7 delivery sites, 1 terminal, and 9 pumping stations.
- OPL is a stock company owned by BP (15%), and Enbridge (85%)
 - Operator: BP





Control Center



- Three consoles: 2 manned by front line Controllers and 1 manned by a Shift Leader for oversight
- Enhanced Leak Detection via Pipeline Leak Detection System (i.e. Computational Pipeline Modeling) integrated with SCADA
- Redundant Communication System (Satellite, Frame Relay and OPL owned fiber optic.) Communications up and running 99.99%
- Two Backup Control Centers



Control Center Console





Control Center Console



Cherry Point/Ferndale 20" Mainline

	U1	U2	U3	Suct	Case	Disch	Flow	Setpoint	DRA	Valves	Accum	Target
CHP	OFF			6	6	124	0	580 10000			6257	45015
BST	ON	ARMY OFF		15								
FER	ON	OFF	ON	107	688	688	6209	1320 12000	OFF 0		7299	999999
Bayview												
GAS						3	0	1000 12000		OPN	0	0
FUEL				227		0	0	1000 10000			0	54200
GAS	ARMY OFF	ARMY OFF		0	0		0				0	58800
FUEL	ARMY OFF	ARMY OFF		0	3		0				0	100000
AL2	OFF	ON		204	729	718		926	OFF 0			
REN	ON	OFF	OFF	428	1150	1145		1435	ON 9	OPN	0	999999
TAJ				618	212			0				
TAC				216		1	0	1000 0			18584	53000
TAS	ON	ON		225	1527	1313		1313		OPN		
OLJ	OFF	ON		411	1126	1119		1241	ON 9	OPN		
CRK	ON	ON		99	1535	1183		1343	ON 11	OPN		
VAJ				265	234							
VAN				240		5	0	1000 0			38432	999999
LIN				106		2	0	1000 0			0	0
POR				79		43	6189	50 8000		OPN	1976	999999

Olympia Junction

Remote Reset

ESD

POWER

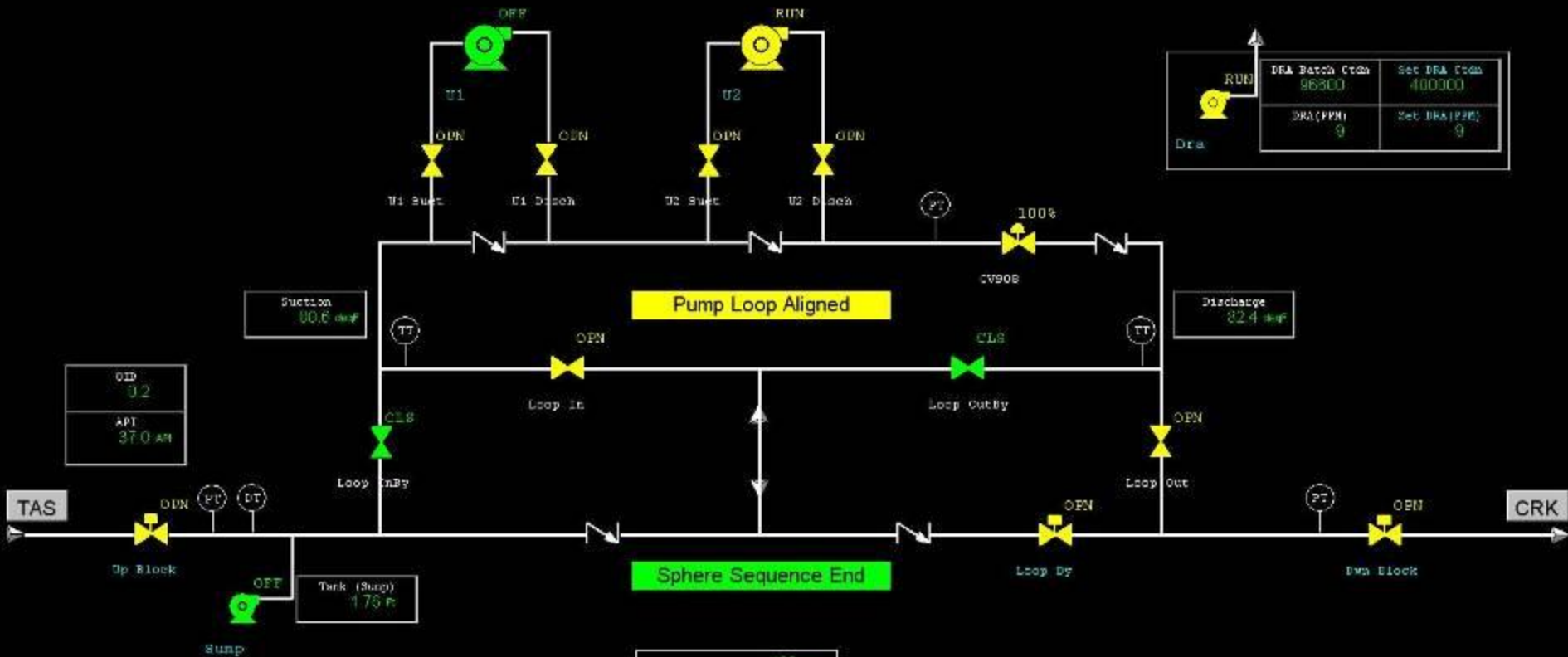
SHUTDOWN

EMZA DISABLE

☒ State Transitions

Purge

Purge



Dra	Run	DRA Batch Cdn	Set DRA Cdn
		96300	400300
		DRA (PPH)	Set DRA (PPH)
		9	9

Sphere Sequence End

Suct	408 psi	setpoint
Case	1123 psi	
Disc	1119 psi	
Flow	5470 bar	
		1241 psi



Valves and Control Systems



- Types of Valves
 - Check Valves
 - Hand and Motor Operated Block Valves
- Motor operated valves are operated from Control Center



Typical Aboveground Block Valve





Typical Facility





Security




- Surveillance camera systems
- EMZA motion detection systems




Emza Multi Site Monitoring (version 00143)
Emza Visual Sense Ltd.


15/04/09
13:22:00


Emza Multi Site Monitor





15/04/09 13:19:58 - OLY_Sta: OLY Pump Loop - OK	Alert Number: 7	Image: 9/14 final	Alert Start: 15-04-09 13:09:18.468
15/04/09 13:19:57 - TAC_Sta: Pump Loop-East - Alert			Received: 15-04-2009 13:09:20.640
15/04/09 13:09:43 - TAC_Sta: Pump Loop-East - Alert			Fixed Time: 15-04-2009 12:09:20.985
15/04/09 13:09:18 - TAC_Sta: Pump Loop-East - Alert	TAC-Sta	Pump-Loop-East	Site Create: 15-04-2009 11:59:00.940
15/04/09 13:07:17 - TAC_Sta: Pump Loop-East - Alert			
15/04/09 13:06:59 - TAC_Sta: Pump Loop-East - Alert			
15/04/09 13:06:35 - TAC_Sta: Pump Loop-East - Alert			
15/04/09 13:03:35 - TAC_Sta: Pump Loop-East - Alert			
15/04/09 13:03:31 - TAC_Sta: TAC Front Door - Alert			
15/04/09 12:37:44 - OLY_Sta: OLY Pump Loop - Alert			
15/04/09 12:26:40 - OLY_Sta: OLY Pump Loop - Alert			
15/04/09 11:58:28 - OLY_Sta: OLY Pump Loop - OK			
15/04/09 11:40:07 - CRK_Sta: CRK Gate Yard - OK			
15/04/09 11:24:52 - OLY_Sta: OLY Pump Loop - Alert			
15/04/09 11:22:14 - OLY_Sta: OLY Pump Loop - Alert			
15/04/09 11:12:53 - OLY_Sta: OLY Pump Loop - OK			
15/04/09 11:12:30 - OLY_Sta: OLY Pump Loop - Alert			
15/04/09 10:49:14 - CRK_Sta: CRK Garage Area - Alert			
15/04/09 10:38:50 - CRK_Sta: CRK Gate Yard - Alert			
15/04/09 10:27:20 - OLY_Sta: OLY Pump Loop - OK			



Speed 



Auto View Alert ☐
Alerts Only ☐
System Alert Popup ☐



Questions



- Any questions?